

Serial No.: 09/921,351

Atty. Docket: BATG-6

Title: Method and Device for Conditioning Comminuted Tobacco Material

IN THE CLAIMS

Claims 1.-5. (canceled)

6. (currently amended) A device for conditioning comminuted tobacco material by heating and moistening with water vapor, comprising:
- a) a chamber, having an upper inlet and a lower outlet, in which said comminuted tobacco material free-falls downwards;
 - b) a cellular wheel sluice at each of the upper inlet and lower outlet of said chamber; and
 - c) ring nozzles for treating said free-falling, comminuted tobacco material with water vapor; ~~wherein; and~~
 - d) a heating jacket; wherein;
 - e) both cellular wheel sluices are formed as pressure differential proof sluices,
 - f) such that a hyperbaric pressure of more than 1 bar is maintained in said chamber.
7. (canceled)
8. (canceled)
9. (previously presented) The device as set forth in claim 6, wherein a discharge direction of said nozzles is inclined downwards.
10. (previously presented) The device as set forth in claim 6, wherein a discharge direction of said nozzles, seen in a horizontal plane, extends at an angle of

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about 90° to the circumferential direction of said chamber.

11. (canceled)
12. (currently amended) The device as set forth in claim 11, wherein said heating jacket is heated using vapor, said heating jacket in vapor communication with a steam source.
13. (original) The device as set forth in claim 6, wherein said chamber expands in an approximately tapered manner downwardly.
14. (original) The device as set forth in claim 6, wherein said lower cellular wheel sluice, formed as a discharge sluice, has a slightly higher conveying volume than said upper cellular wheel sluice, formed as a feed sluice.
15. (original) The device as set forth in claim 6, wherein an airflow dryer is connected to said lower cellular wheel sluice.
16. (currently amended) A device for conditioning tobacco material, comprising:
a chamber having an inlet and an outlet;
a first wheel sluice at said inlet and a second wheel sluice at said outlet;
at least one water vapor nozzle located within said chamber;
a heating jacket;
said chamber maintaining a hyperbaric pressure of more than 1 bar.
17. (previously presented) The device for conditioning tobacco material of claim 16 wherein said chamber is aligned in vertical direction, said inlet of said chamber vertically above said outlet of said chamber.

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18. (previously presented) The device for conditioning tobacco material of claim 17 wherein at least one water vapor nozzle is comprised of a plurality of water vapor nozzles within an interior surface of said chamber.
19. (previously presented) The device for conditioning tobacco material of claim 18 wherein said plurality of water vapor nozzles are directed downward.
20. (canceled)
21. (previously presented) The device for conditioning tobacco material of claim 17 wherein said tobacco material descends downward through said chamber from said inlet to said outlet.
22. (previously presented) The device for conditioning tobacco material of claim 21 wherein said first wheel sluice and said second wheel sluice are pressure differential sluices.
23. (previously presented) The device for conditioning tobacco material of claim 22 wherein said first wheel sluice has a first predetermined conveying volume and said second wheel sluice has a second predetermined volume, said first predetermined volume less than said second predetermined volume.
24. (currently amended) The device for conditioning tobacco material of claim 23 further comprising an airflow dryer in flow communication with said second wheel sluice.
25. (previously presented) A device for conditioning tobacco material, comprising: a hyperbaric chamber having an inlet and an outlet;

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a first pressure differential proof wheel sluice at said inlet of said hyperbaric

chamber;

a second pressure differential proof wheel sluice at said outlet end of said

hyperbaric chamber;

said second pressure differential proof wheel sluice having a larger conveying

volume than said first pressure differential proof wheel sluice;

a plurality of nozzles within said chamber in flow communication with a vapor

source;

a heating jacket surrounding said hyperbaric chamber;

wherein a hyperbaric pressure of more than 1 bar is maintained within said

chamber.

26. (previously presented) The device for conditioning tobacco material of claim 25 wherein said vapor source is superheated vapor in vapor communication with said heating jacket and having a temperature between about 100°C and 200°C.
27. (previously presented) A device for conditioning tobacco material, comprising:
- a hyperbaric chamber having an upper inlet and a lower outlet and being tapered from said upper inlet to said lower outlet, said upper inlet having a pressure differential wheel sluice and said lower outlet having a pressure differential wheel sluice;
- said hyperbaric chamber having at least one nozzle formed on an interior

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surface thereof in flow communication with a vapor source, said nozzle in flow communication with superheated vapor having a temperature between about 100°C and 200°C;

said hyperbaric chamber having a pressure of greater than 1 bar and having a heating jacket formed around an exterior surface, said heating jacket in vapor communication with said vapor source;

said pressure differential wheel sluice in said upper inlet having a lower conveying volume than said pressure differential wheel sluice in said lower outlet.

Claims 28.-30. (canceled)

31. (previously presented) A device for conditioning tobacco material, comprising:
- a hyperbaric chamber having an upper inlet and a lower outlet and being tapered from said upper inlet to said lower outlet, said upper inlet having a first pressure proof differential wheel sluice and said lower outlet having a second pressure proof differential wheel sluice;
 - said second wheel sluice having a larger conveying volume than said first wheel sluice;
 - a plurality of ring nozzles integrated with an interior surface of said hyperbaric chamber, each of said ring nozzles in flow communication with a superheated vapor source of at least 100°C;
 - a heating jacket surrounding an exterior surface of said hyperbaric chamber, said

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heating jacket in flow communication with a heated vapor source;

wherein said hyperbaric chamber maintains an absolute pressure of about 2 to

about 10 bars.